WHAT IS CLAIMED IS:

1. A surface mount antenna comprising a dielectric substrate and a radiation electrode operative to perform an antenna-operation and arranged in a loop-shape so as to be extended over a plurality of surfaces of the dielectric substrate;

the radiation electrode including an electric feeding portion disposed on one side thereof and connected to an external circuit, the radiation electrode being branched in a branching portion existing along a path from the electric feeding portion to the other end to define a plurality of branched radiation electrodes;

one of the branched radiation electrodes being an in-loop branched radiation electrode which is surrounded by a loop-shaped electrode including the radiation electrode portion extended from the electric feeding portion to the branching portion and another branched radiation electrode connected to the radiation electrode portion, the in-loop branched radiation electrode being spaced at an interval from the loop-shaped electrode portion;

the in-loop branched radiation electrode and the radiation electrode portion extended from the electric feeding portion to the branching portion defining a capacitance therebetween; and

at least front ends of the respective branched radiation electrodes being arranged on different surfaces of the dielectric substrate.

2. A surface mount antenna according to Claim 1, wherein at least a front end of the in-loop branched radiation electrode is surrounded by the radiation electrode portion extended from the electric feeding portion to the branching portion, and an interval between the side edge of the at least front end portion of the in-loop branched radiation electrode and the portion of the radiation electrode adjacent to the side edge and located relatively near the feeding portion is larger than the interval between the other side edge of the at least front end portion of the in-loop branched radiation

electrode and the portion of the radiation electrode adjacent to the other side edge and located relatively far from the feeding portion.

3. A surface mount antenna according to Claim 1, wherein at least a front end portion of the in-loop branched radiation electrode is surrounded by the radiation electrode portion extended from the feeding portion of the radiation electrode to the branching portion via a slit having a substantially constant width, the portion of the slit existing nearer the feeding portion than the in-loop branched radiation electrode and extended along the in-loop branched radiation electrode has a larger length than the other portion of the slit positioned farther from the feeding portion than the in-loop branched radiation electrode and extended along the in-loop branched radiation electrode.

4. A surface mount antenna according to Claim 1, wherein, of the plurality of branched radiation electrodes partially constituting the radiation electrode, a front end of one branched radiation electrode is arranged on the same surface of the dielectric substrate as the electric feeding portion of the radiation electrode in opposition to the electric feeding portion and at an interval relative to the electric feeding portion, the front end of the in-loop branched radiation electrode is arranged on the same surface of the substrate as the portion of the radiation electrode excluding the electric feeding portion, in opposition to and at an interval relative to a portion of the radiation electrode excluding the feeding portion, and an interval between the feeding portion and a front end of the branched radiation electrode opposed to the feeding portion is larger than that between the portion of the radiation electrode excluding the feeding portion and the front end of the in-loop branched radiation electrode opposed to the portion of the radiation electrode excluding the feeding portion.

5. A surface mount antenna according to Claim 1, wherein the in-loop branched radiation electrode is disposed on the upper surface of the dielectric substrate,

and one of the other branched radiation electrodes is disposed on a side surface of the dielectric substrate.

6. A surface mount antenna according to Claim 1, wherein the in-loop branched radiation electrode has a larger width than any one of the other branched radiation electrodes.

7. A surface mount antenna according to Claim 1, wherein at least one non-feeding radiation electrode, in addition to the loop-shaped radiation electrode, is disposed on the dielectric substrate, and is arranged at an interval relative to the loop-shaped radiation electrode and is electromagnetically coupled to the loop-shaped radiation electrode, whereby the non-feeding radiation electrode together with the loop-shaped radiation electrode in a higher-order mode generates a double resonance state.

8. A surface mount antenna according to Claim 1, wherein at least one side portion of the in-loop branched radiation electrode is arranged adjacent to the radiation electrode portion extended from the feeding portion to the branching portion via a slit, and frequency adjusting portions are provided in an electrode portion existing in the vicinity to the slit, and are arranged to variably change at least one of the width and the length of the slit for adjustment of the resonant frequency of the radiation electrode.

9. A surface mount antenna according to Claim 1, wherein one of the branched radiation electrodes partially constituting the radiation electrode is provided with cut-ins for controlling the resonant frequency in a higher-order mode of the radiation electrode.

10. A surface mount antenna according to Claim 1, wherein matching of the antenna is adjusted by setting of the interval between the in-loop branched radiation electrode and the loop-shaped electrode including the another branched radiation electrode or by setting of the interval between the in-loop branched radiation electrode

and the radiation electrode portion extended from the feeding portion of the radiation electrode to the branching portion.

11. A surface mount antenna according to Claim 1, wherein the resonant frequency in a higher-order mode is adjusted by setting of a capacitance between the in-loop branched radiation electrode and the radiation electrode extended from the feeding portion to the branching portion.

12. An antenna device comprising a substrate and the surface mount antenna according to Claim 1.

13. An antenna device according to Claim 12, wherein the substrate has a ground electrode provided at least in an area excluding a mounting area for the surface mount antenna, and the surface mount antenna is provided on a non-ground area of the substrate.

14. An antenna device according to Claim 12, wherein at least one non-feeding radiation electrode, in addition to the loop-shaped radiation electrode, is disposed on the dielectric substrate, and is arranged at an interval relative to the loop-shaped radiation electrode and is electromagnetically coupled to the loop-shaped radiation electrode, whereby the non-feeding radiation electrode together with the loop-shaped radiation electrode in a higher-order mode generates a double resonance state.

15. An antenna device according to Claim 14, wherein one-end side of the non-feeding radiation electrode is connected to the ground electrode of the substrate via a circuit having an inductance disposed on the substrate.

16. A communication device comprising the surface mount antenna according to Claim 1.

17. A communication device comprising the antenna device according to Claim 12.

18. A communication device comprising the antenna device according to Claim 14.

19. A communication device comprising the antenna device according to Claim 15.